Traffic Signal Observance Studies

These studies are made to check driver observance of traffic control signals at intersections. They can be used to determine need for selective enforcement, education, retiming or other physical changes.

Conducting Studies

As for stop sign observance, planning and recording are the key steps in traffic signal observance studies.

Planning

At a normal intersection, two MPs are needed to conduct this study. They should not be in uniform, and MP patrols should avoid the area.

Intersections experiencing congestion or a high number of accidents are checked. In addition, several other intersections with signals are checked for comparison purposes.

The study should be conducted for at least three (3) hours. This time is broken into one-hour periods in the morning, afternoon and evening.

At least 50 vehicles should be checked at each intersection during each one-hour period.

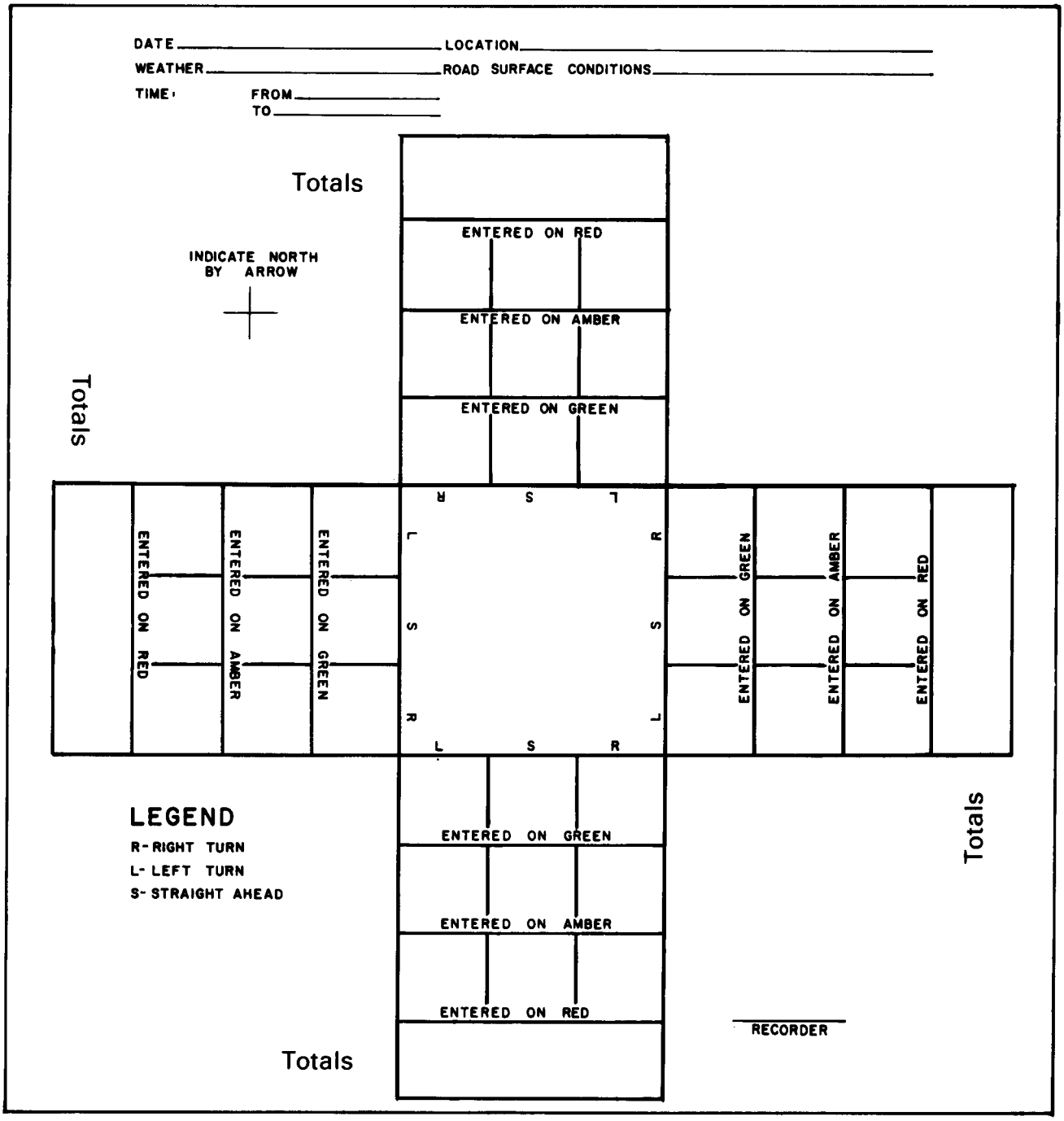
If the study is at a high accident location, the check is made during the time frame of the accidents.

(Note: If the intersection is multilane, additional observers may be required.)

Recording

Two observers stand on opposite corners of the intersection, diagonally, and face the traffic signal. In this manner they can check traffic in two lanes, alternating on their lefts and rights.

MPs use the field sheet (shown below) to record data. Vehicles enter an intersection on a green, amber or red light. An additional column can be added for those drivers who jump the red light.



Traffic Signal Observance Field Sheet

Data from the field sheets is then transferred to the summary sheet (below). In determining percentage of observance, only the number going through red lights are subtracted from the total, not yellow lights.

In analysis, the following observance percentages are used:

Excellent observance	99%
Good observance	97%
Problem intersection	96% or less

Uses

The results of this study can be used to determine:

☐ Need for a special enforcement program to improve signal observance. (Facts of this study can be used to justify this need to the public.)

☐ Need to make physical changes in traffic signals.
Faulty timing may be responsible for some observance problems, particularly if phases are too short. Lights may be placed at improper angles, which may allow both approaches to see lights at the same time. This can be corrected by using hoods or louvers. Stop lines painted on the pavement may help. Directional lights may be necessary at intersections with a high number of left turns.

☐ Need to improve visibility of the signals.
Hourly or seasonal changes must be considered, such as foliage, or the position of the sun in the

Location _____ Date _____ Weather _____

Morning Hours _____ Afternoon Hour _____ Evening Hour _____

Entering on		Passenger vehicles				Commercial vehicles				Total vehicles			
		Left	Straight	Right	Sub-total	Left	Straight	Right	Sub-total	Left	Straight	Right	Total
Green	No.												
	%												
Yellow after green	No.												
	%												
Red	No.												
	%												
Jumped light	No.												
	%												
Total	No.												
	%												

Compiled by _____

Driver Observance of Traffic Signals Summary Sheet

morning or late afternoon. Hoods and louvers may help this type of situation also. Illuminated advertising signs may be interfering with signal observation. Another observation problem arises at complex intersections where signals may be improperly located or confusing.